Harvest Decision Tree

1. Is the stock listed as threatened or endangered (ESA; 16 U.S.C. 1531 et seq.)?

NO

YES

A

2. Is the stock continuing to decline?

YES

NO

"Avoid Extinction"

B

3. Is the stock known to be significantly impacted by ocean fisheries?

NO

YES

4. Can modifying ocean harvest management rules either alone or in conjunction with in-river harvest rules modifications significantly increase adult escapement (NMFS Rec. Plan Task 3.1)?

YES

Develop an overall ocean (and in-river) target harvest rate schedule, in conjunction with mortality reductions at other life stages, that would significanlty contribute to the reverse of the decline.

NO

5. Can modifying inriver harvest management rules significantly increase adult escapement (NMFS Rec. Plan Task 3.2)?

Implement ocean and in-river harvest strategies needed to meet target harvest rate schedule (i.e., PSC, PFMC, CRFMP).

YES

Develop an overall in-river target harvest rate schedule, in conjunction with mortality reduction at other life stages, that would significantly contribute to the reverse of the decline.

NO

Identify hydroelectric, habitat, and hatchery management strategies needed to reverse the decline (NMFS Rec. Plan).

Implement in-river harvest strategies that meet target harvest rate schedule (CRFMP).

B

"Sustain Recovery"

6. Is the stock known to be significantly impacted by ocean fisheries?

NO

YES

7. Can modifying ocean harvest management rules either alone or in conjunction with in-river harvest rules modifications significantly increase adult escapement (NMFS Rec. Plan Task 3.1)?

YES

Develop an overall ocean (and in-river) target harvest rate schedule, in conjunction with mortality reductions at other life stages, that would significanlty contribute to sustaining recovery.

NO

8. Can modifying inriver harvest management rules significantly increase adult escapement (NMFS Rec. Plan Task 3.2)?

Implement ocean and in-river harvest strategies needed to meet target harvest rate schedule (i.e., PSC, PFMC, CRFMP).

YES

Develop an overall in-river target harvest rate schedule, in conjunction with mortality reduction at other life stages, that would significantly contribute to sustaining recovery.

NO

Identify hydroelectric, habitat, and hatchery management strategies needed to sustain the recovery (NMFS Rec. Plan).

Implement in-river harvest strategies that meet target harvest rate schedule (CRFMP).

A

9. Have all Columbia River salmonid stocks been delisted?

YES

Determine the need to retain restrictive fisheries in the Columbia River and ocean.

NO

10. Does the stock maintain a stable production level that supports the escapement and harvest goals of the region (e.g., NPPC's Strategy for Salmon, Wy-Kan-Ush-Mi Wa-Kish-Wit, Wild Stock Policies of WDFW and ODFW, Washington Salmon 2000)?

NO

YES

"Rebuild"

11. Does the current harvest management practices for this stock adversely influence other stocks that are listed as threatened or endangered or that are otherwise considered to be depressed?

12. Is the stock experiencing continual decline in spawning escapement?

YES

NO

NO

YES

C

D

"Status Quo"

Retain current harvest practices and manegement policy for the stock.

Taking into consideration the impacted stocks, delop an overall (ocean & in-river) harvest rate schedule in conjunction

with other life stage mortality reductions.

C

"Priority Stock"

13. Is the stock known to be significantly impacted by ocean fisheries?

NO

YES

14. Can modifying ocean harvest management rules either alone or in conjunction with in-river harvest rules modifications significantly increase adult escapement.

YES

Develop an overall ocean (and in-river) target harvest rate schedule, in conjunction with mortality reductions at other life stages, that would significanlty contribute to the reverse of the decline.

NO

15. Can modifying inriver harvest management rules significantly increase adult escapement.

Implement ocean and in-river harvest strategies needed to meet target harvest rate schedule (i.e., PSC, PFMC, CRFMP).

YES

Develop an overall in-river target harvest rate schedule, in conjunction with mortality reduction at other life stages, that would significantly contribute to the reverse of the decline.

NO

Identify hydroelectric, habitat, and hatchery management strategies needed to reverse the decline.

Implement in-river harvest strategies that meet target harvest rate schedule (CRFMP).

D

"Lower Priority Stock"

16. Is the stock known to be significantly impacted by ocean fisheries?

NO

YES

17. Can modifying ocean harvest management rules either alone or in conjunction with in-river harvest rules modifications significantly increase adult escapement .

YES

Develop an overall ocean (and in-river) target harvest rate schedule, in conjunction with mortality reductions at other life stages, that would contribute to rebuilding the stock.

NO

18. Can modifying inriver harvest management rules significantly increase adult escapement.

Implement ocean and in-river harvest strategies needed to meet target harvest rate schedule (i.e., PSC, PFMC, CRFMP).

YES

Develop an overall in-river target harvest rate schedule, in conjunction with mortality reduction at other life stages, that would contribute to rebuilding the stock.

NO

Identify hydroelectric, habitat, and hatchery management strategies needed to aid in the rebuilding of the stock.

Implement in-river harvest strategies that meet target harvest rate schedule (CRFMP).

Note: This decision tree would be followed for each stock expected to enter a fishery, for each

time a fishery is being considered. It would also be invoked during seasonal, annual, or long-term planning.

6. Using current harvest practices can Columbia River mainstem harvest be increased without jeopardizing long-term recovery objectives for listed species (NMFS Rec. Plan Task 3.3a)?	YES	Modify CRFMP to accomodate both recovery and Treaty trust responsibilities	
	NO		
7. Using current harvest practices can the subbasin (tributary terminal) harvest be increased without jeopardizing long-term recovery objective for the given stock (NMFS Rec. Plan Task 3.3b)?	YES		Complete subbasin harvest plans
	NO		

C

Develop alternative harvest methods (NMFS Rec. Plan Task 3.4)

8. Does the alternative method increase stock productivity by reducing the selectivity of current harvest management practices for larger fish (NMFS Rec. Plan Task 3.4a)?

YES — Implement new practice in PSC or Inriver fisheries

NO

9. Does the alternative method place an emphasis on terminal area fisheries (NMFS Rec. Plan Task 3.4b)?

YES

NO

10. Does the terminal fishery reduce impacts on depressed stocks in mixed stock fisheries?

YES — Implement terminal fishery

NO

D

D

11. Does the alternative method facilitate the sorting of fish harvested by selective gear (NMFS Rec. Plan Task 3.4c)?

YES

NO

12. Does the action allow cost effective mass marking ?

YES

NO

13. Will an accept-able level of hand-

ling mortality be maintained? YES Implement mass marking

NO

14. Does the alternative method reduce harvest capacity (NMFS Rec. Plan Task 3.5)? YES Implement buy-back programs so by 2002:
Troll licenses reduced by 50%
Mainstem gillnets eliminated (reduce 20% annually until phase-out completed)

NO

C

A

15. Have all Columbia River salmonid stocks been delisted?

YES NO

Determine overall harvest rate schedules that meet regional planned utilization goals, while maintaining viable naturally spawning Columbia River salmon stocks.

E

E

16. Does the stock maintain a stable production level that supports the escapement and harvest goals of the region (NPPC Strategy for Salmon, Wy-Kan-Ush-Mi Wa-Kish-Wit, ODFW / WDFW Wild Stock Policies,Washington Salmon 2000, etc.)?

NO YES

17. Is the stock experiencing contiual decline********* in spawning escapement?

YES NO

Go to 3 Go to B**********

17. Do the current harvest management (CRFMP,FMCA,PST) or harvest practices need to be modified to acheive rebuilding goals?

YES

NO

18. Do the current harvest management (CRFMP,FMCA,PST) or harvest practices have adverse impacts on stocks that are listed as threatened or endangered or that are otherwise considered to be depressed.

NO

YES

Retain current harvest practices and management policies

Tribal Plan:

Prop. 9. Selective Fisheries

Can changes in harvest technology reduce harvest of depressed natural stocks while allowing fishers access to harvestable hatchery stocks?

Can seasons be extended to allow harvst of all harvestable fish?
Can sampling be increased?
Will incidental mortalities from catch and release of unmarked fish in selective fisheries be lower than current harvest rates in order to rebuild natually spawning stocks?

Prop. 10. Harvest ceilings

Can changes in ocean fisheries management practices increase escapements to the Columbia River?

PSC reduce adult equivalent ocean exploitation total chinook mortalities in northern ocean fisheries.
Reduce incidental mortalities in ocean fisheries by reducing the number of chinook nonretention days.
Mutual management of Alaskan and Canadian ocean fisheries based on chinook abundance
Annual review all ocean fishing regimes to determin effects on rebuilding.
Take empirical observations of survival rates into account in all ocean fishery management

NPPC Plan:

Prog. Goal 5.1A Manage harvest to meet spawning escapement objectives
Prog. Goal 5.1B Modify harvest management and legal agreements to acheive rebuilding goals
Develop rebuilding schedule for weak stocks
identify and achieve annual survival targets at a number of life stages throughout life cycle
Prog. Goal 5.1C Consult every April with NPPC consistency of harvest management with rebuilding schedule
Previous season performance (harvest rates, escapement goals, and management goals);
Extent proposed regulations will acheive harvest rates, escapement goals, and management goals;
Status report on weak stocks
Prog. Goal 5.2 Develop harvest regimes that protect critical brood stocks, and reduce harvest rates
Document and standardise how harvest rates calculated and expressed
Select a base period for harvest rates for comparison perposes.
5.2A Sockeye fisheries below confluence of Snake only for limited C&S
5.2B Fall Chinook fisheries SR stock harvest at rate less than 55%
5.2C Spring Chinook fisheries maintain 4% of upriver run inriver, and less than 2% of upriver in ocean
5.2D Summer Chinook fisheries maintain 1000 and 100 fish incidental in C&S and non-treaty fisheries
5.2E Fish bank program to pay fishers not to fish (a lease-back not same as buy-back)
Prog. Goal 5.3 Develop harvest alternatives
5.3A Feasibility of live-catch and known-stock fisheries
5.3B Develop alternative capture technologies
5.3C Terminal harvest fisheries
Prog. Goal 5.4 Improve stock identification both inriver and in the ocean
5.4A Expand GSI sampling
5.4B Improve GSI database
5.4C Increase sample rate of harvest
Prog. Goal 5.5 Decrease harvest impacts by other fisheries (including the sport fishery)
5.5A Develop catch and release, closures, etc. for protection of salmon in all sport fisheries within a weak stock area
5.5B Reduce incidental salmon harvest in other ocean fisheries, and apply those numbers to appropriate salmon harvest quotas
5.5C End illegal or wasteful fisheries including ending high seas drift net fisheries
5.5D Voluntary commercial fishing permit buy-back program
5.5E Include IDFG and CRITFC in Compact
5.5F NMFS produce a June 1 unified report of harvest data, and IDFG report toNPPC in March

Washington State's Salmon 2000
Double the catch of fish in Washington by the year 2000
Emphasis on recreational fishing
List of tools to managers current:
area regulation
timing regulation
test and evaluation fisheries
management periods
gear limitations

limited entry
license limitation or by-back programs
marking tools
statistical tools

Future trends
bias in recreational salmon catch estimates
decrease in average age and size of Pacific Salmon

Promising opportunities
Pros and Cons of selective fisheries (could elim. size limits, closures, and catch quotas)

WDFW Wild Salmonid Policy (salmon, trout, char, whitefish, and grayling)

Alt. 1a No targeted fishery on run sizes below escapement goals
Alt. 1b Incidental harvests allowed on primary management units down to 80% of escapement goal
Alt. 2 same as above Alt 1
Alt. 3 same as 1 & 2 plus Incidental harvests limited to catch and release impacts up to 5% of WA runsize
Alt. 4 same as 3 but now Incidental harvests limited to catch and release impacts up to 5% of WA stock size
Alt. 5 same as 4